



# SCHEMA

Team ENJOY!!

Assignment 3

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- 1) Generate a separate database diagram for each schema and for the full database.

**Schema Diagrams:**

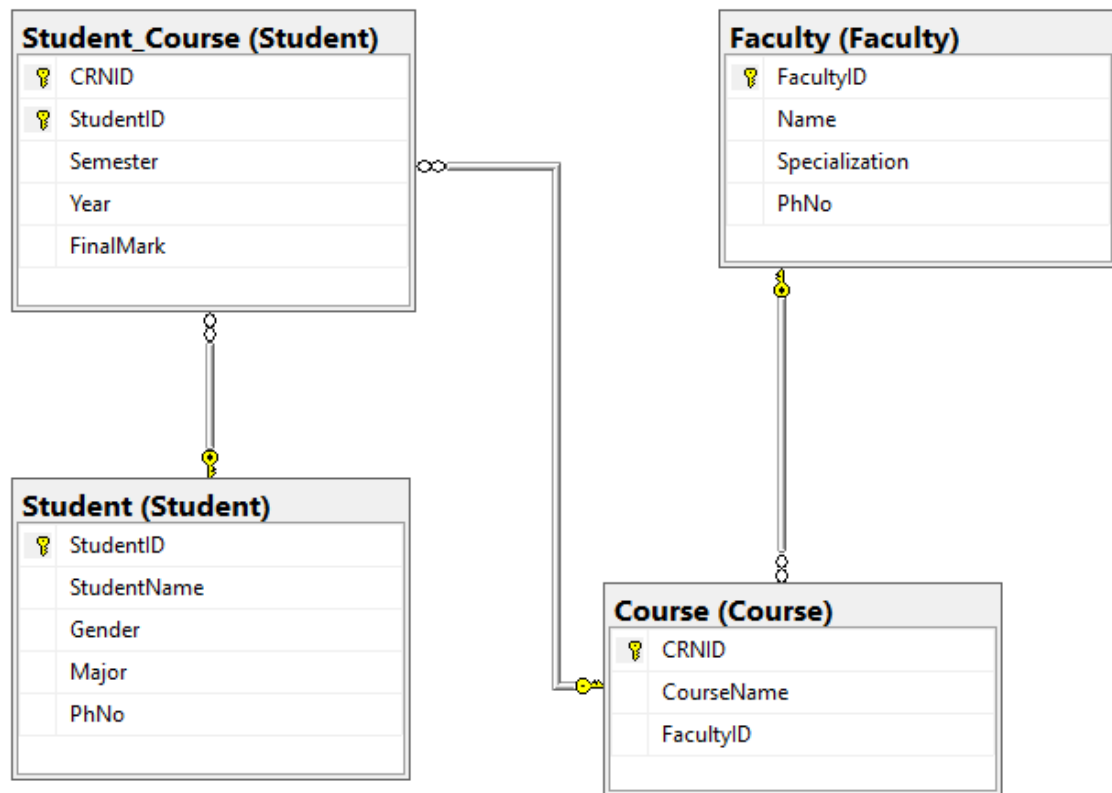
Course (Course)	
	CRNID
	CourseName
	FacultyID

Faculty (Faculty)	
	FacultyID
	Name
	Specialization
	PhNo

Student (Student)	
	StudentID
	StudentName
	Gender
	Major
	PhNo

Student_Course (Student)	
	CRNID
	StudentID
	Semester
	Year
	FinalMark

Database Diagram:



Activate Windows  
Go to Settings to activate Windows.

- 2) Generate a minimum number of join queries to demonstrate use.

**User Story: As an academic advisor, I need a list of Student IDs who has their count of completed courses along with their average score so that I can determine their eligibility for Graduation.**

The screenshot displays the Microsoft SQL Server Management Studio interface. The left pane shows the Object Explorer with the 'Exam1\_Yagna' database selected. The central query editor contains the following SQL query:

```
select count (CRNID) as 'No of courses taken', s.StudentID, avg (FinalMark) as 'Average scored marks'
from Student.Student_Course as sc
left join Student.Student as s
on sc.StudentID = s.StudentID
group by s.StudentID
```

The bottom pane shows the results of the query, which is a table with three columns: 'No of courses taken', 'StudentID', and 'Average scored marks'. The results are as follows:

	No of courses taken	StudentID	Average scored marks
1	5	100001	78
2	4	100002	76
3	6	100003	83
4	4	100004	78
5	3	100005	93
6	3	100006	83
7	3	100007	73
8	6	100008	79
9	6	100009	74
10	4	100010	89
11	4	100011	83

The status bar at the bottom indicates that the query was executed successfully, returning 99 rows. The Windows taskbar at the bottom shows the time as 10:10 AM on 9/16/2019.

- 3) Schema organization and queries must be supported by a user story and derived requirements.

**User Story: As a registrar of the University, I need to get a list of students who scored more than 90% in Database course so that I can evaluate the toughness of the course**

The screenshot shows the Microsoft SQL Server Management Studio interface. The Object Explorer on the left displays the database structure for 'Exam1\_Yagna'. The main query window contains the following SQL code:

```

use Exam1_Yagna
select s.StudentID, StudentName, FinalMark, CourseName, Semester, Year
from Student.Student as s
full join Student.Student_Course as sc
on sc.StudentID = s.StudentID
full join Course.Course as c
on c.CRNID = sc.CRNID
where CourseName like 'Database%'
and FinalMark > 90
order by FinalMark desc

```

The Results pane shows the following data:

StudentID	StudentName	FinalMark	CourseName	Semester	Year
100016	Jade	100	Database Design	Summer	2019
100075	Hashim	99	Database Design	Spring	2019
100021	Craig	98	Database Design	Spring	2019
100033	Wanda	98	Database Design	Fall	2019
100035	Neil	98	Database Design	Spring	2019
100049	Charde	98	Database Design	Fall	2019
100001	Elvis	98	Database Design	Summer	2019
100024	Drake	97	Database Design	Spring	2019
100053	Callum	93	Database Design	Summer	2019
100047	Colorado	93	Database Design	Spring	2019
100080	Cally	93	Database Design	Summer	2019
100076	Hilda	91	Database Design	Spring	2019

The status bar indicates the query was executed successfully, returning 12 rows.

**User Story: As a HR Manager of the college, I need to get the student count list per faculty So that I can determine the pay scale of the faculty.**

The screenshot shows the Microsoft SQL Server Management Studio interface. The Object Explorer on the left displays the database structure for 'Exam1\_Yagna'. The main query window contains the following SQL code:

```

select count (studentID) as 'No of students for the year', f.FacultyID, f.Name, f.Specialization
from Student.Student_Course as sc
right join Course.Course as c
on sc.CRNID = c.CRNID
right join Faculty.Faculty as f
on c.FacultyID = f.FacultyID
group by f.FacultyID, f.Name, f.Specialization

```

The Results pane shows the following data:

No of students for the year	FacultyID	Name	Specialization
11	101	Keane David	Big Data
17	102	Sloane Harding	Data Mining
37	103	Brian Holden	Systems Design
8	104	Chadwick Shelton	Statistics
30	105	Nina Kennedy	Systems Design
28	106	Neil Wiggins	Big Data
22	107	Tad Williams	Systems Design
55	108	Alec Logan	Data Mining
21	109	Farah Murphy	Statistics
28	110	Willow Porter	Business Applications
9	111	Emerson Sharp	Statistics

The status bar indicates the query was executed successfully, returning 20 rows.